

AMENDMENTS TO THE CLAIMS

1-21. (Canceled).

22. (Currently Amended) A magnetic random access memory structure comprising:

an insulating layer having a plurality of grooves formed therein;

a barrier layer in each of said plurality of grooves;

longitudinally extending conductive lines formed over said barrier layer in each of said plurality of grooves, said barrier layer and said conductive lines having upper surfaces, wherein said upper surfaces have roughened portions and protruding portions;

a planarized conductive material layer formed over said roughened portions and protruding portions of said upper surfaces of said barrier layer and said conductive lines;

respective first magnetic layers over said planarized conductive material layer; and

respective second magnetic layers over said first magnetic layers.

23. (Previously Presented) The structure of claim 22 wherein said conductive material layer is selected from the group consisting of tantalum (Ta), titanium (Ti), titanium-tungsten (TiW), titanium nitride (TiN) and chromium (Cr).

24. (Previously Presented) The structure of claim 22 wherein said conductive material layer is a resistive material.

25. (Original) The structure of claim 22 wherein said insulating layer is selected from the group consisting of BPSG, SiO, SiO₂, Si₃N₄ and polyimide.

26. (Previously Presented) The structure of claim 22 wherein said conductive material layer is formed to a thickness of about 5 nm to about 20 nm.

27. (Previously Presented) The structure of claim 24 wherein said conductive material layer is a resistive material comprising one of TaN and WSiN.

28. (Currently Amended) A memory device comprising:
at least one magnetic random access memory cell, said magnetic random access memory cell comprising:

an insulating layer having trenches formed therein;

a barrier layer formed in said trenches in the insulating layer;

a conductor formed over the barrier layer, said barrier layer and conductor having a top surface, wherein said top surface has roughened portions and protruding portions;

a planarized conductive material layer provided over said roughened portions and protruding portions of said top surface of said barrier layer and said conductor;

a first ferromagnetic layer formed over said conductor;

a second ferromagnetic layer formed over said first ferromagnetic layer;

and

a nonmagnetic layer between said first and second ferromagnetic layers.

29. (Previously Presented) The device of claim 28 wherein said conductive material layer is selected from the group consisting of tantalum (Ta), titanium (Ti), titanium-tungsten (TiW), titanium nitride (TiN) and chromium (Cr).

30. (Previously Presented) The device of claim 28 wherein said conductive material layer is a resistive material.

31. (Original) The device of claim 28 wherein said insulating layer is selected from the group consisting of BPSC, SiO, SiO₂, Si₃N₄ or polyimide.

32. (Previously Presented) The device of claim 28 wherein said conductive material layer is formed to a thickness of about 5 nm to about 20 nm.

33. (Previously Presented) The device of claim 30 wherein said conductive material layer is a resistive material comprising one of TaN and WSiN.

34-39. (Canceled).

40. (Previously Presented) The structure of claim 22, wherein respective first magnetic layers over said conductive lines are also over said barrier layer.

41. (Previously Presented) The device of claim 28, wherein the first ferromagnetic layer formed over said conductor also is formed over said barrier layer.